

From glowbugs@sco.theporch.com Sat Mar 22 21:08:47 1997
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Sat, 22 Mar 1997 21:08:43 -0600 (CST)
From: glowbugs@sco.theporch.com
Received: from sco.theporch.com (localhost [127.0.0.1])
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id DAA04662; Sun, 23 Mar 1997 03:06:43 GMT
Date: Sun, 23 Mar 1997 03:06:43 GMT
Message-Id: <199703230306.DAA04662@sco.theporch.com>
Errors-To: ws4s@infoave.net
Reply-To: glowbugs@sco.theporch.com
Originator: glowbugs@sco.theporch.com
Sender: glowbugs@sco.theporch.com
Precedence: bulk
To: Multiple recipients of list <glowbugs@sco.theporch.com>
Subject: GLOWBUGS digest 483
X-Listprocessor-Version: 6.0 -- ListProcessor by Anastasios Kotsikonas
X-Comment: Please send list server requests to listproc@sco.theporch.com
Status: 0

GLOWBUGS Digest 483

Topics covered in this issue include:

- 1) Re: Vacuum Tube Synchronous Demodulator
by Chris Trask <ctrask@primenet.com>
- 2) DAT Drivers help!
by -Tony-Gallagher- <kiss@iol.ie>
- 3) new Heath list
by Scott Cowling <dfi@cyberhighway.net>

Date: Fri, 21 Mar 1997 20:56:38 -0700 (MST)
From: Chris Trask <ctrask@primenet.com>
To: Multiple recipients of list <glowbugs@sco.theporch.com>
Subject: Re: Vacuum Tube Synchronous Demodulator
Message-ID: <Pine.BSI.3.95.970321202729.27688B-100000@usr09.primenet.com>

On Tue, 18 Mar 1997, John Kolb wrote:

>
> There's a very good article by Craig Siegenthaler in Fine Tuning's
> 1990 "Proceedings" which outlines a number of different ways to do
> "synchronous detection". Craig says the above method was first called

> synchro-phase by Drake and used in the R-7 receiver. Also used
> in the JRC NRD-525.
>

I just received a large envelope chock full of information about synchronous detectors and sheet-bam modulators from John Kolb. Thanks, John.

I also copied the article "A Synchronous Detector for AM Transmissions" by Jukka Vermasvuori, OH2GF (July 1993 QST, pp. 28-33). All in all, I believe that I'll opt for the term "synchro-phase" detection rather than "quasi-synchronous." Semantics, I know.

The synchrophase detector described by Siegenthaler is exactly what I've been describing. I agree with Vermasvuori as to the limitations of this approach when faced with fading signals and the like. In my particular application, I had to detect AM pulses of 5% and less duty cycle, which precludes any PLL sort of carrier recovery. I actually "reinvented" the synchrophase detector based upon the square-law/limiter/divider detector described by Couch ("Digital and Analog Communication Systems," Macmillan, 1993). It was a cost-effective approach to the problem at hand, and the customer is quite happy with the results.

Ulrich Rohde ("Communications Receivers: Principles and Design," McGraw-Hill, 1988) gives a very brief mention of this approach on pages 374-375.

I have made a small 40M receiver based upon my design, as a precursor to the next design for my customer. I used the NE605, which is actually an NE604 and an NE602 in the same package. It's my intention to add a PLL and Basic Stamp for the tuning control.

Okay, okay!! It's NOT vacuum tubes, and I appologize for the off-topic discussion. I have, however, transferred some vacuum tube circuitry to solid state lately (see the August 1996 issue of RF Design), and plan to do even more. Therefore, I feel safe in offering a discussion of solid state circuitry with the intent of developing hollow-state.

Speaking of tubes, I now have enough information about sheet-beam modulators to realize that they would make dandy phase detectors and detectors/demodulators. To fully implement a Costas Loop with tubes, I would have to go back to a 1950's era text on analogue computers to be able to find an analogue multiplier to finish the circuitry. I wonder, however, if one of these jewels would do the job?

Does anyone know where I can find one of those 6-channel Heathkit analogue computers, the one with the vacuum tube op-amps? I always thought they were kinda neat.

I gotta go.

Chris

[illegible]

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I'm sorry that this isn't really radio related, but I've tried other groups and had no luck.

Does anyone have a copy of a MAC based DAT backup program?

Thanks, and sorry for using this group for non related matters!!!!

Cheers, Tony Gallagher
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Date: Sat, 22 Mar 1997 17:08:40 GMT
From: Scott Cowling <dfi@cyberhighway.net>
To: glowbugs@sco.theporch.com, azqrp@dancris.com, otrig-1@fablotz.min.net
Subject: new Heath list
Message-ID: <2.2.16.19970322100757.3367d40a@mailhost.cyberhighway.net>

Calling all Heathkit owners, collectors, admirers!!!!

Thanks to Dave, AI7R, we now have a list devoted to Heath gear!

To subscribe, send a message to: listserv@listserv.tempe.gov

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End of GLOWBUGS Digest 483
